CLAIMS

1. A data recording and reproducing apparatus comprising:

a random-accessible recording device for storing data;

an input path for transferring input data to said recording device;

an input buffer disposed on said input path for temporarily storing said input data;

an output path for transferring output data stored in said recording device, said output path being separate from said input path;

an output buffer for temporarily storing the output data transferred through said output path; and

a controller for simultaneously storing said input data into said input buffer and transferring said output data from said output buffer, in parallel with writing from said input buffer to said recording device or reading from said recording device to said output buffer.

2. The data recording and reproducing apparatus according to claim 1, wherein said controller is positioned between said input and output buffers and said recording device and performing said storing, said transferring, said writing, and said reading, in response to commands from the outside.

3. The data recording and reproducing apparatus according to claim 2, wherein a path used for command input and status output is connected to said controller, separately from said input path and said output path.

4. The data recording and reproducing apparatus according to any one of claims 1, 2 and 3, wherein each of said input buffer and said output buffer has a first memory area and a second memory area, and $t_1 + t_2 > T_1$ and $t_1 + t_2 > T_2$ are satisfied where t_1 is a time required for writing data into said recording device the amount of which is sufficient to fill the first or second memory area of said input buffer, T_1 is a time required for filling the first or second memory area of said input buffer with data, t_2 is a time required for reading out data from said recording device the amount of which is sufficient to fill the first or second memory area of said output buffer, and T_2 is a time required for completely outputting the data filled in the first or second memory area of said output buffer.

5. A method for recording and reproducing video data in which the video data is recorded in a random-accessible recording device having separate input and output buffers and the video data recorded in said recording device is reproduced, said method comprising the steps of:

storing the video data from the outside into said input buffer;

writing the video data stored in said input buffer to said recording device;

reading out the video data recorded in said recording device to said output buffer; and

transferring the video data read out to said output buffer to the outside simultaneously with said storing step.

6. The method according to claim 5, wherein each of said input buffer and said output buffer has a first memory area and a second memory area, and $t_1 + t_2 > T_1$ and $t_1 + t_2 > T_2$ are satisfied where t_1 is a time required for writing data into said recording device the amount of which is sufficient to fill the first or second memory area of said input buffer, T_1 is a time required for filling the first or second memory area of said input buffer with data, t_2 is a time required for reading out data from said recording device the amount of which is sufficient to fill the first or second memory area of said output buffer, and T_2 is a time required for completely outputting the data filled in the first or second memory area of said output buffer.

7. A disk drive unit comprising:

a hard disk for storing data;

an input path for transferring input data to said hard disk;

an output path for outputting data stored in said hard disk, said output path being separate from said input path; and

a file system disposed between said input and output paths and said hard disk for managing data stored in said hard disk.

8. The disk drive unit according to claim 7, wherein an input buffer is disposed on said input path, an output buffer is disposed on said output path, and a controller for controlling said input buffer and said output buffer is provided between said input and output buffers and said hard disk.

9. The disk drive unit according to claim 8, wherein said file system is built in said controller.

10. The disk drive unit according to claim 9, wherein said controller stores data into said input buffer and transfers data from said output buffer simultaneously, in parallel with writing from said input buffer to said hard disk or reading from said hard disk to said output buffer.

11. The disk drive unit according to claim 10, wherein each of said input buffer and said output buffer has a first memory area and a second memory area, and $t_1 + t_2 > T_1$ and $t_1 + t_2 > T_2$ are satisfied where t_1 is a time

required for writing data into said hard disk the amount of which is sufficient to fill the first or second memory area of said input buffer, T_1 is a time required for filling the first or second memory area of said input buffer with data, t_2 is a time required for reading out data from said hard disk the amount of which is sufficient to fill the first or second memory area of said output buffer, and T_2 is a time required for completely outputting the data filled in the first or second memory area of said output buffer.

12. A control unit for a data recording and reproducing apparatus comprising:

an input buffer for temporarily storing data to be stored in a random-accessible recording device;

an output buffer for temporarily storing data from said recording device to transfer the data; and

a controller for controlling data storage and output for said input buffer and said output buffer and having a file system for managing data stored in said recording device.